

COMMONWEALTH OF VIRGINIA
Department of Environmental Quality
Valley Regional Office

STATEMENT OF LEGAL AND FACTUAL BASIS

R. R. Donnelley & Sons Company
Harrisonburg, Virginia
Permit No. VRO81000

Title V of the 1990 Clean Air Act Amendments required each state to develop a permit program to ensure that certain facilities have federal Air Pollution Operating Permits, called Title V Operating Permits. As required by 40 CFR Part 70 and 9 VAC 5 Chapter 80, R. R. Donnelley & Sons Company has applied for a renewal of its Title V Operating Permit for its Harrisonburg book printing facility. The Department has reviewed the application and has prepared a draft Title V Operating Permit.

Engineer/Permit Contact:_____

Date: __2-22-06__

Air Permit Manager:_____

Date: __2-23-06__

Deputy Regional Director:_____

Date: __3-7-06__

FACILITY INFORMATION

Permittee

R. R. Donnelley & Sons Company
2347 Kratzer Road
Harrisonburg, Virginia 22802-8303

Facility

R. R. Donnelley & Sons Company
2347 Kratzer Road
Harrisonburg, Virginia 22802-8303

Plant ID No. 51-165-0114

SOURCE DESCRIPTION

NAICS Codes:

323117 (formerly SIC Code: 2732) – Book printing

R. R. Donnelley & Sons Company (RRD) produces hard- and soft-cover commercial trade books using offset lithographic printing. The facility operates 18 heatset web presses, one sheetfed (coldset) press, and binding processes. Press operations use inks, fountain solutions, and blanket wash (cleaning solvents). In the binding area, printed materials are assembled, bound into book blocks, and then further processed into hard- and soft-cover books. Edge trimming and roughing and adhesive application are conducted at the binding lines. Volatile organic compound (VOC) emissions result primarily from evaporation of solvent in the inks, fountain solutions, and cleaning solvents. Particulate emissions are generated by the handling of paper trim and dust generated at the binding lines. Adhesive application at the binding lines is an additional source of VOC emissions.

The facility is a Title V major source of VOC and HAPs (glycol ethers, naphthalene, and ethylene glycol, all three of which are also VOCs). This source is located in an attainment area for all pollutants, and is a PSD minor source. The facility was previously permitted under a Minor NSR Permit issued on February 15, 2005 and amended August 11, 2005.

COMPLIANCE STATUS

The facility is inspected at least once every two years. The most recent full compliance inspection of the facility was conducted on July 28, 2004. RRD was found to be operating in compliance during the inspection. In addition, all reports and other data required by permit conditions or regulations, which are submitted to DEQ, are evaluated for compliance. Based on

these compliance evaluations, the facility has not been found to be in violation of any state or federal applicable requirements.

CHANGES SINCE INITIAL PERMIT

During its five-year term, RRD's Title V permit was modified three times to reflect changes at the facility, as detailed below.

Date	Permit action	Reason for action
March 15, 2001	Issuance	N/A
November 29, 2001	Minor modification	<ul style="list-style-type: none">- installed additional cyclone in Paper Trim Scrap (PTS) system- installed additional baghouse in Waste Paper Dust (WPD) system- no change in allowable throughput or emissions
October 13, 2004	Significant modification	<ul style="list-style-type: none">- installation of three heatset web presses (768, 769, & 783)- removal of Edge Stainer- removal of state-only enforceable toxic compound emission limits (no longer applicable to lithographic printing facilities)
December 12, 2005	Significant modification	<ul style="list-style-type: none">- installation of heatset press (790)- reduction in allowable heatset printing emissions (limit changed from 95 tpy to 75 tpy)- reflected the combining of two mNSR permits into a single permit

Please refer to the statement of basis documents for each of the listed modifications for further details. The renewed Title V permit reflects the modifications as well as the addition of a Compliance Assurance Monitoring (CAM) Plan for the baghouses on the Waste Paper Dust (WPD) collection system. Also, the Inapplicable Requirements section of the permit has been expanded to include some federal regulations that have been promulgated since issuance of the original permit.

EMISSION UNIT AND CONTROL DEVICE IDENTIFICATION

Table I. Emission Units - R. R. Donnelley & Sons - Harrisonburg Division

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity*	Pollution Control Device Description (PCD)	PCD ID	Pollutant Controlled	Applicable Permit Date
Sheetfed Offset Printing Equipment							
751	51A, B, and C	1989 Heidelberg 72FL sheetfed offset printing press	11,000 imp/hr	none	-	-	2/15/05, as amended 8/11/05
Web Offset Printing Equipment							
762	62	1980 Hantscho VI two-web offset printing press	861 ft/min	none	-	-	2/15/05, as amended 8/11/05
763	63	1980 Hantscho VI two-web offset printing press	861 ft/min	none	-	-	2/15/05, as amended 8/11/05
764	64	1991 Hantscho 16C two-web offset printing press	861 ft/min	none	-	-	2/15/05, as amended 8/11/05
765	65	1995 Toshiba OA two-web offset printing press	861 ft/min	none	-	-	2/15/05, as amended 8/11/05

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity*	Pollution Control Device Description (PCD)	PCD ID	Pollutant Controlled	Applicable Permit Date
766	66	1996 Toshiba OA two-web offset printing press	861 ft/min	none	-	-	2/15/05, as amended 8/11/05
767	67	2000 Hantscho 16c two-web offset printing press	38,000 units/hr	none	-	-	2/15/05, as amended 8/11/05
768	68	2003 Hantscho 16c two-web offset printing press	38,000 units/hr	none	-	-	2/15/05, as amended 8/11/05
769	69	2003 Hantscho 16c two-web offset printing press	38,000 units/hr	none	-	-	2/15/05, as amended 8/11/05
770	70	1985 Toshiba OA two-web offset printing press	1,615 ft/min	none	-	-	2/15/05, as amended 8/11/05
771	71	1985 Toshiba OA one-web offset printing press	1,615 ft/min	none	-	-	2/15/05, as amended 8/11/05
772	72	1989 Toshiba OA two-web offset printing press	1,615 ft/min	none	-	-	2/15/05, as amended 8/11/05

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity*	Pollution Control Device Description (PCD)	PCD ID	Pollutant Controlled	Applicable Permit Date
773	73	1994 Toshiba OA two-web offset printing press	1,615 ft/min	none	-	-	2/15/05, as amended 8/11/05
783	83	2003 Harris M110B two-web offset printing press	36,000 units/hr	none	-	-	2/15/05, as amended 8/11/05
784	84	1993 Harris M110B two-web offset printing press	863 ft/min	none	-	-	2/15/05, as amended 8/11/05
785	85	1992 Harris M110B two-web offset printing press	863 ft/min	none	-	-	2/15/05, as amended 8/11/05
786	86	1980 Harris M110B two-web offset printing press	863 ft/min	none	-	-	2/15/05, as amended 8/11/05
787	87	1983 Harris M110B two-web offset printing press	863 ft/min	none	-	-	2/15/05, as amended 8/11/05

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity*	Pollution Control Device Description (PCD)	PCD ID	Pollutant Controlled	Applicable Permit Date
790	90	Timson T48A one-web offset printing press	31,400 impressions/hr	none	-	-	2/15/05, as amended 8/11/05
Paper and Dust Handling Systems							
PTS	C1, C2, C3, C4	Pneumatic trim scrap system (C1 – C3, 1980; C4, 2001)	15 tons/hr	none	-	-	2/15/05, as amended 8/11/05
WPD	BH1 BH2	Waste paper dust collection system (BH1, 1980; BH2, 2001)	15 tons/hr	Baghouse	BH	TSP, PM-10	2/15/05, as amended 8/11/05
Adhesive Operations							
ADH	-	Binding line adhesive application (1980)	-	none	-	-	2/15/05, as amended 8/11/05

*The Size/Rated capacity is provided for informational purposes only and is not an applicable requirement.

EMISSIONS INVENTORY

A copy of the 2004 annual emission update is attached as Attachment A. Emissions are summarized in the following tables.

Table 2. 2004 Actual Emissions

Emission Unit	Criteria Pollutant Emission in Tons/Year				
	VOC	CO	SO ₂	PM ₁₀	NO _x
Sheetfed press (751)	6.00	0	0	0	0
Heatset web presses (762-773, 783-787, and 790)	62.9	0	0	0	0
Paper and dust handling systems (PTS & WPD)	0	0	0	12.70	0
Adhesive operations (ADH)	1.3	0	0	0	0
Space heat boilers (insignificant emissions units)	0.044	0.68	0.0048	0.0608	0.80
Total	70.24	0.68	0.0048	12.76	0.80

Table 3. 2004 Facility Hazardous Air Pollutant Emissions

Pollutant	Hazardous Air Pollutant Emission in Tons/Year
Glycol ethers	0.5
Ethylene glycol (CAS 107-21-1)	0.75
Naphthalene (CAS 91-20-3)	0.25
TOTAL HAPS	1.5

Note: Combustion emissions of naphthalene, arsenic, chromium, cobalt, manganese, nickel, and lead were below one pound per year.

SHEETFED PRESS APPLICABLE REQUIREMENTS – Unit 751

Limitations

The following VOC limitations, applicable to the sheetfed (nonheatset) press, are State BACT requirements from the minor NSR permit issued February 15, 2005 and amended August 11, 2005. Condition numbers are from the minor NSR permit; a copy of the permit is attached as Attachment B.

- Condition 6, limiting the VOC composite partial vapor pressure of organic cleaning solvents to 10 mmHg at 20 °C and requiring that organic cleaning solvents, including those retained in used towels, be stored in a closed container when not in use
- Condition 10, limiting throughput of VOC in inks and fountain solutions to 17.1 tons per year and throughput of VOC in cleaning solvents to 7.9 tons/yr, each calculated monthly as the sum of the previous consecutive 12-month period
- Condition 12, limiting VOC emissions from the sheetfed press to 21.0 tons/yr, calculated monthly as the sum of the previous consecutive 12-month period
- Condition 14, limiting visible emissions to five percent opacity

Monitoring and Recordkeeping

The monitoring and recordkeeping requirements in Condition 17 of the minor NSR permit have been modified to meet Part 70 requirements. The permittee is required to monitor and record on a monthly basis the throughput of VOC (in inks, fountain solutions, and cleaning solvents) to the sheetfed press. The permit also requires that monthly and annual VOC emissions from the sheetfed press be calculated each month to demonstrate compliance with VOC emissions limits. Material Safety Data Sheets (MSDS) for all materials used are required to be maintained on site. The following assumptions, from EPA's draft Control Techniques Guidelines (CTG) for Control of VOC from Offset Lithographic Printing (EPA-453/D-95-001, September 1993) shall be used in calculating VOC emissions:

- 95% of nonheatset ink VOC is retained in paper substrate (5% emitted)
- 100% of fountain solution VOC is emitted
- 50% of cleaning solvent applied is emitted (50% retained in used towels kept in closed containers)

Considering that the sheetfed press is operated at ambient temperature and that the inks employed are of low VOC content (primarily ultraviolet-cured inks are used), operation of the sheetfed press is not expected to result in visible emissions. Accordingly, no monitoring has been included in the permit for the visible emissions limit on the sheetfed press.

The permit includes requirements to maintain records of all monitoring and testing required by the permit. Such records include VOC emission calculations and supporting VOC throughput and material formulation records. Condition III.B.1 requires that calculation of VOC emissions be made using the following formula:

$$E_{VOC} = \sum_{i=1}^n [(I_{VOC,i} \times 0.05) + FS_{VOC,i} + (BW_{VOC,i} \times 0.50)]$$

Where

- E_{VOC} = VOC emissions in tons per month
- I_{voc} = Monthly throughput of VOC contained in ink, as applied (tons)
- FS_{VOC} = Monthly throughput of VOC contained in fountain solution (tons)
- BW_{VOC} = Monthly throughput of VOC contained in blanket wash or cleaning solvent (tons)
- i = Each ink, fountain solution, or blanket wash

For the purposes of calculating VOC emissions, the permit requires a tiered approach to determining VOC content in coating. Under certain circumstances, the permit allows the VOC content of coating as supplied used in emission calculations to be based on manufacturer formulation data as shown on the MSDS for each product. If a range of VOC content values is given, calculations shall be based on the maximum value. However, once the monthly calculation of actual emissions indicates that annual VOC emissions from any individual ink, fountain solution, coating, or other material are equal to or greater than 10% of the allowable annual emissions, quarterly testing of that product formulation is required. The testing shall be conducted, by either the permittee or the supplier, using EPA Reference Method 24 (40 CFR 60, Appendix A). Each shipment of subject material must be identified by a product formulation number that may be correlated to Reference Method 24 results. Emission calculations must be based on the most recent test results for each formulation. The quarterly tests may be discontinued after actual annual emissions from individual subject inks, fountain solutions, coatings, or other materials, are below 10% of the allowable levels for three consecutive months. If quarterly testing is discontinued, the permit requires that the VOC content determined in the latest test for each subject formulation be used in lieu of MSDS information.

Please note that RRD's Harrisonburg plant prints books using primarily one of two black inks. The two inks account for over 85% of the ink volume used at the facility. There are many individual colored inks used to fulfill various applications; most are used in very small amounts as needed for illustration or highlighting purposes and represent only a small fraction of the total ink used. Testing inks used in such small quantities (often less than 100 gallons a year) would be costly and would not be representative of the inks comprising the majority of the emissions. The tiered approach proposed, therefore, will ensure that VOC content is verified for those inks that appreciably contribute to emissions and will thus provide a reasonable assurance of compliance with the emission limit.

Testing

The permit does not require source tests. A table of test methods has been included in the permit if testing is performed. The Department and EPA have authority to require testing not included in this permit if necessary to determine compliance with an emission limit or standard.

Reporting

There are no specific reporting requirements related to the sheetfed press.

WEB PRESS APPLICABLE REQUIREMENTS – Units 762-773, 783-787, and 790

Limitations

The following VOC limitations, applicable to the web (heatset) presses, are State BACT requirements from the minor NSR permit issued February 15, 2005 and amended August 11, 2005. Condition numbers are from the minor NSR permit; a copy of the permit is attached as Attachment B.

- Condition 3, requiring that VOC emissions be controlled by using a fountain solution containing alcohol substitutes and limiting the VOC content of the fountain solution to no more than a daily average of five percent by weight
- Condition 4, limiting VOC content of inks used on Presses 762-766, 770-773, 784-787 and 790 to 32% by weight, calculated as a monthly average
- Condition 5, limiting VOC content of inks used on Presses 767-769 and 783 to 28% by weight, as applied
- Condition 6, limiting the VOC composite partial vapor pressure of organic cleaning solvents to 10 mmHg at 20 °C and requiring that organic cleaning solvents, including those retained in used towels, be stored in a closed container when not in use
- Condition 9, limiting fuels used in the heatset press dryers to natural gas and propane
- Condition 10, limiting the annual throughput of VOC in inks, fountain solutions, blanket washes and cleaning solvents used the heatset presses (some presses limited individually and some in groupings)
- Condition 12, limiting annual VOC emissions from the heatset presses (some presses limited individually and some in groupings)
- Condition 14, limiting visible emissions from heatset presses to ten percent opacity

At the time of issuance of the original Title V permit (dated March 15, 2001), most of the heatset presses were subject to a minor NSR permit dated May 3, 1979. On February 15, 2005, all presses were combined under a single minor NSR permit.

Monitoring and Recordkeeping

The permit requires RRD to inspect each web press stack weekly for visible emissions. If any visible emissions are present, a six-minute visible emissions evaluation (VEE) must be conducted according to EPA Reference Method 9 (40 CFR 60, Appendix A). If during the six minutes any violations of the opacity standard are noted, a one-hour VEE is required to demonstrate compliance with the standard. Timely corrective action is required if a violation is determined to have occurred. Such requirements provide a reasonable assurance of compliance with the visible emissions limit. Please note that based on past inspection reports, it is unlikely that the visible emissions limit will be violated.

The monitoring and recordkeeping requirements in Condition 17 of the minor NSR permit have been modified to meet Part 70 requirements. The permittee is required to monitor and record on a monthly basis the throughput of VOC (in inks, fountain solutions, and cleaning solvents) to the heatset presses and the monthly average or as applied VOC contents of the inks, as applicable. The permit also requires that monthly and annual VOC emissions from the heatset presses be calculated each month to demonstrate compliance with VOC emissions limits. Material Safety Data Sheets (MSDS) for all materials used are required to be maintained on site. The following assumptions, from EPA's draft Control Techniques Guidelines (CTG) for Control of VOC from Offset Lithographic Printing (EPA-453/D-95-001, September 1993) shall be used in calculating VOC emissions:

- 20% of ink VOC is retained in paper substrate (80% emitted)
- 100% of fountain solution VOC is emitted
- 50% of cleaning solvent applied is emitted (50% retained in used towels kept in closed containers)

The permit includes requirements to maintain records of all monitoring and testing required by the permit, derived from Condition 17 of the minor NSR permit. Such records include VOC emission calculations and supporting VOC throughput and material formulation records. Condition III.C.2 requires that the monthly calculation of VOC emissions be made using the following formula:

$$E_{VOC} = \sum_{i=1}^n [(I_{VOC,i} \times 0.80) + FS_{VOC,i} + (BW_{VOC,i} \times 0.50)]$$

Where

- E_{VOC} = VOC emissions in tons per month
 I_{VOC} = Monthly throughput of VOC contained in ink, as applied (tons)
 FS_{VOC} = Monthly throughput of VOC contained in fountain solution (tons)
 BW_{VOC} = Monthly throughput of VOC contained in blanket wash or cleaning solvent (tons)
 i = Each ink, fountain solution, or blanket wash

Please note that this formula has changed since the original Title V permit was issued in 2001. The formula now includes calculation of VOC emissions from blanket wash for all heatset presses at the facility.

For the purposes of calculating VOC emissions, the permit requires a tiered approach to determining VOC content in coating. Under certain circumstances, the permit allows the VOC content of coating as supplied used in emission calculations to be based on manufacturer formulation data as shown on the MSDS for each product. If a range of VOC content values is given, calculations shall be based on the maximum value. However, once the monthly calculation of actual emissions indicates that annual VOC emissions from any individual ink, fountain solution, coating, or other material are equal to or greater than 10% of the allowable annual emissions, quarterly testing of that product formulation is required. The testing shall be conducted, by either the permittee or the supplier, using EPA Reference Method 24 (40 CFR 60, Appendix A). Each shipment of subject material must be identified by a product formulation number that may be correlated to Reference Method 24 results. Emission calculations must be based on the most recent test results for each formulation. The quarterly tests may be discontinued after actual annual emissions from individual subject inks, fountain solutions, coatings, or other materials, are below 10% of the allowable levels for three consecutive months. If quarterly testing is discontinued, the permit requires that the VOC content determined in the latest test for each subject formulation be used in lieu of MSDS information.

Please note that RRD's Harrisonburg plant prints books using primarily one of two black inks. The two inks account for over 85% of the ink volume used at the facility. There are many individual colored inks used to fulfill various applications; most are used in very small amounts as needed for illustration or highlighting purposes and represent only a small fraction of the total ink used. Testing inks used in such small quantities (often less than 100 gallons a year) would be costly and would not be representative of the inks comprising the majority of the emissions. The tiered approach proposed, therefore, will ensure that VOC content is verified for those inks that appreciably contribute to emissions and will thus provide a reasonable assurance of compliance with the emission limit.

Testing

The permit does not require source tests. The requirement in Condition 16 of the minor NSR permit that RRD conduct VEE on the heatset presses upon the request of DEQ has been included in the Title V permit. A table of test methods has been included in the permit if testing is performed. The Department and EPA have authority to require testing not included in this permit if necessary to determine compliance with an emission limit or standard.

Reporting

There are no specific reporting requirements related to the heatset presses.

PAPER AND DUST HANDLING SYSTEMS APPLICABLE REQUIREMENTS – Pneumatic Trim Scrap (PTS) system and Waste Paper Dust (WPD) system

Limitations

The following particulate matter (PM) limitations, applicable to the scrap and dust handling systems, are State BACT requirements from the minor NSR permit issued February 15, 2005 and amended August 11, 2005. Condition numbers are from the minor NSR permit; a copy of the permit is attached as Attachment B.

- Condition 7, requiring that PM from the WPD system be controlled by fabric filter
- Condition 11, limiting paper throughput to the PTS to 38,600 tons/yr
- Condition 13, limiting hourly and annual emissions from PTS operations to 15 lbs/hr and 19.3 tons/yr, respectively, and limiting emissions from binding line roughing operations (WPD system) to 0.01 gr/dscf and 2.6 tons/yr
- Condition 14, limiting visible emissions from PTS operations to 20 percent opacity and those from the WPD system to five percent opacity

Monitoring and Recordkeeping

PTS

The monitoring and recordkeeping requirements in Condition 17 of the minor NSR permit have been modified to meet Part 70 requirements. The permittee is required to perform weekly inspections of the stacks of the cyclones to assess the presence of visible emissions. If visible emissions are seen from the cyclones, the permit requires that an EPA Reference Method 9 test be performed. If the test indicates a violation, corrective action shall be taken.

The permit requires that RRD show compliance with the annual PTS throughput limit by monitoring and recording the weight of paper trim scraps captured in the cyclones. Based on testing at another RRD facility having similar printing and binding operations, RRD derived an emission factor correlating PM emissions to the amount of paper scraps recovered in the cyclones of the PTS (one pound PM per ton paper scraps baled). Subsequently, reference method 5 testing of a similar unit indicated that the derived emission factor is conservative. The emission factor, along with records of paper scraps captured, will be used to calculate PM emissions from the cyclones. Because the emission factor is one, the formula for calculating monthly PM emissions (E_{PM}) provided in the permit is simply the tons of paper scrap (S) divided by 2000, or

$$E_{PM} = \frac{S}{2000}$$

The throughput limit was derived based on allowable emissions and the emission factor provided by RRD and confirmed by test results. Therefore, compliance with the throughput limit assures compliance with the emission limit.

The permit requires RRD to keep monthly records of the annual throughput (tons) of paper shavings baled. RRD is also required to keep weekly records of the VE inspections performed on the PTS cyclone stacks.

WPD (Compliance Assurance Monitoring)

Each baghouse serving the WPD system has potential pre-control PM emissions above 100 tons/yr. The baghouses are used to meet the PM standard established in the minor NSR permit for the WPD system. Accordingly, each baghouse is subject to Compliance Assurance Monitoring (CAM) at 40 CFR 64.

RRD submitted a CAM Plan dated September 28, 2005 (and supplemental information dated March 6, 2006), proposing the following as indicators of compliance for each baghouse:

1. Differential pressure across the baghouse between 1.5 and 6.0 inches water column
2. The absence of visible emissions from the baghouse exhaust stack
3. Annual internal inspections to confirm structural integrity of the baghouse

The plan includes the rationale for indicator selection and range (differential pressure) and is appended as Attachment C. The proposed CAM Plan is derived from the periodic monitoring that was required for the baghouses in the initial Title V permit; it enhances the original monitoring by specifying the acceptable differential pressure range. Additionally, VRO staff added specific recordkeeping requirements as part of the CAM Plan.

The approved CAM Plan, including indicators to be monitored, indicator measurement methods, and performance criteria in 40 CFR 64.3, have been incorporated by reference into the Title V renewal permit. The Plan also defines what constitutes an excursion for each indicator and the threshold above which the number of excursions would require a Quality Improvement Plan (QIP). The permit also requires that records be kept of the monitoring required by the Plan and requires that reports of excursions, monitor downtime incidents and actions taken to implement a QIP be submitted semi-annually. The permit includes a condition stating RRD's obligation to conduct monitoring specified in the permit's CAM attachment. The differential pressure monitoring, visible emissions checks, and annual inspection requirements included in the permit's CAM plan will provide an assurance of compliance with applicable requirements for each WPD baghouse and therefore satisfy the requirements of 40 CFR 64.

Testing

The permit does not require source tests. A table of test methods has been included in the permit if testing is performed. The Department and EPA have authority to require testing not included in this permit if necessary to determine compliance with an emission limit or standard.

Reporting

There are no specific reporting requirements related to the sheetfed press.

ADHESIVE OPERATIONS APPLICABLE REQUIREMENTS – Unit ADH

Limitations

The following VOC limitations, applicable to adhesive operations, are State BACT requirements from the minor NSR permit issued February 15, 2005 and amended August 11, 2005. Condition numbers are from the minor NSR permit; a copy of the permit is attached as Attachment B.

- Condition 6, limiting the VOC composite partial vapor pressure of organic cleaning solvents to 10 mmHg at 20 °C and requiring that organic cleaning solvents, including those retained in used towels, be stored in a closed container when not in use
- Condition 10, limiting VOC throughput to 12.5 tons/yr
- Condition 12, limiting VOC emissions to 12.5 tons/yr
- Condition 14, limiting visible emissions to five percent opacity

Monitoring and Recordkeeping

The monitoring and recordkeeping requirements in Condition 17 of the minor NSR permit have been modified to meet Part 70 requirements. The permittee is required to monitor and record on a monthly basis the throughput of VOC in adhesives applied on the binding lines and calculate monthly and annual VOC emissions to demonstrate compliance with VOC limits. Material Safety Data Sheets (MSDS) for all adhesives used are required to be maintained on site. In calculating VOC emissions, it is assumed that all VOC applied is eventually emitted to the atmosphere. The VOC content of adhesives, as supplied, shall be that indicated on the MSDS for each product.

Emissions from adhesive operations are required to be calculated monthly as follows:

$$E_{VOC} = \sum_{i=1}^n ADH_{VOC,i} + CS_{VOC,i}$$

Where

E_{VOC} = VOC emissions in tons per month
 ADH_{VOC} = Monthly throughput of VOC contained in adhesives, as applied (tons)
 CS_{VOC} = Monthly throughput of VOC contained in cleaning solvent (tons)
i = Each stain or solvent used

The recordkeeping requirements in Condition 17 of the Minor NSR Permit have been modified to meet Part 70 requirements. Required records include amount of VOC used and emitted in adhesive operations, including those in the adhesives themselves and those in cleaning solvents. Certified MSDS showing VOC content of each adhesive used must also be maintained.

Testing

There are no source test requirements for the process. A table of test methods has been included in the permit if testing is performed. The Department and EPA have authority to require testing not included in this permit if necessary to determine compliance with an emission limit or standard.

GENERAL CONDITIONS

The permit contains general conditions required by 40 CFR Part 70 and 9 VAC 5-80-110, that apply to all Federal operating permit sources. These include requirements for submitting semi-annual monitoring reports and an annual compliance certification report. The permit also requires notification of deviations from permit requirements or any excess emissions, including those caused by upsets, within one business day.

INAPPLICABLE REQUIREMENTS

The following regulations were identified by the permittee as inapplicable:

9 VAC 5 Chapter 40 Article 31 (Rule 4-31), Emission Standards for Paper and Fabric Coating Application Systems: Rule 4-31 applies only to facilities located in VOC control areas. RRD is not located in a VOC control area. Additionally, RRD conducts printing, not coating, operations.

9 VAC 5 Chapter 40 Article 36 (Rule 4-36), Emission Standards for Flexographic Packaging, Rotogravure and Publication Rotogravure Printing Lines: RRD does not operate flexographic or rotogravure printing presses.

9 VAC 5 Chapter 40, Article 53 (Rule 4-53), Emission Standards for Lithographic Printing Processes: Rule 4-53 applies only to facilities located in designated VOC control areas. RRD is not located in a VOC control area.

40 CFR 63 Subpart KK (National Emission Standards for Hazardous Air Pollutants from the Printing and Publishing Industry): Subpart KK applies to flexographic and rotogravure presses; lithographic printing presses were excluded from the definition of affected source under the rule. Therefore, RRD's Harrisonburg facility is not subject to the standard.

40 CFR 63 Subpart JJJJ (National Emission Standards for Hazardous Air Pollutants from Paper and Other Web Coating): Subpart JJJJ specifically excludes lithographic web coating from the rule at 40 CFR 63.3300(c). Therefore, RRD's Harrisonburg facility is not subject to the standard.

RRD also identified as inapplicable the recently-promulgated Boiler MACT (40 CFR 63 Subpart DDDDD – National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters). However, RRD's boilers are included in the definition of affected source in the Boiler MACT. Based on the age, size, and fuel used, RRD's boilers are considered existing small gas-fired boilers under the rule and therefore part of the affected source definition. Yet, the final rule specifically excludes existing small boilers (using any fuel) from any requirements under the MACT, including notification, recordkeeping, and reporting requirements. VRO does not agree that the Boiler MACT does not apply to RRD, but does find that there are no requirements applicable to RRD deriving from the rule.

Additionally, VRO finds the following regulations to be inapplicable to RRD:

40 CFR 60 Subpart Kb, New Source Performance Standards for Volatile Organic Liquid Storage Vessels: The minimum tank capacity to which 40 CFR 60 Subpart Kb is applicable is 19,812.9 gallons. All storage tanks at the RRD facility have capacities lower than the threshold.

40 CFR 63 Subpart EEEE (National Emission Standards for HAPs from Organic Liquids Distribution): Subpart EEEE has a storage tank applicability threshold of 5,000 gallons. The RRD facility has no tanks that exceed the applicability threshold. Furthermore, transfer operation standards apply to facilities that transfer organic liquids out of the facility; RRD does not transfer solvents out of the facility.

INSIGNIFICANT EMISSION UNITS

The insignificant emission units are presumed to be in compliance with all requirements of the Clean Air Act as may apply. Based on this presumption, no monitoring, recordkeeping or reporting shall be required for these emission units in accordance with 9 VAC 5-80-110.

Insignificant emission units include the following:

Table 4. Insignificant emission units

Emission Unit No.	Emission Unit Description	Citation	Pollutant(s) Emitted (5-80-720B)	Rated Capacity (5-80-720C)
ADH-TKS	Water-based adhesive tanks	9 VAC 5-80-720B	VOC	-
BAT	Battery chargers	9 VAC 5-80-720B	PM, acid vapors	-
BH	Binder heaters (combustion)	9 VAC 5-80-720C	-	0.1 MMBtu/hr
CHL	Water chillers	9 VAC 5-80-720B	CFC	-
FP	Fire pump (combustion)	9 VAC 5-80-720C	-	1.6 MMBtu/hr
GEN	Emergency generators (combustion)	9 VAC 5-80-720C	-	1.5 MMBtu/hr
DEV	Plate & film developers	9 VAC 5-80-720B	VOC	-
FLM	Manual film cleaning	9 VAC 5-80-720B	VOC	-
HWB	Hot water boilers (combustion for space heat)	9 VAC 5-80-720C	-	6.7 MMBtu/hr
IJP	Ink jet printers	9 VAC 5-80-720B	VOC	-
PV	Propane vaporizer (combustion)	9 VAC 5-80-720C	-	< 10 MMBtu/hr
PW	Parts washers	9 VAC 5-80-720B	VOC	-
PST	Propane storage tanks	9 VAC 5-80-720B	VOC	-
SB	Steam boilers (combustion)	9 VAC 5-80-720C	-	2.2 MMBtu/hr
UST	Underground storage tanks	9 VAC 5-80-720B	VOC	-
WH	Water heaters (combustion)	9 VAC 5-80-720C	-	0.8 MMBtu/hr
WST	Waste storage tank	9 VAC 5-80-720C	-	3,000 gallons

¹The citation criteria for insignificant activities are as follows:

9 VAC 5-80-720 A - Listed Insignificant Activity, Not Included in Permit Application

9 VAC 5-80-720 B - Insignificant due to emission levels

9 VAC 5-80-720 C - Insignificant due to size or production rate

Please note that the hot water boilers (HWB) are considered part of the affected source under the Boiler MACT (40 CFR 63 Subpart DDDDD, National Emission Standards for Hazardous Air Pollutants from Industrial, Commercial, and Institutional Boilers and Process Heaters). However, because of the installation date and size of the units, the hot water boilers are

considered existing small boilers, and the final Boiler MACT rule specifically excludes existing small boilers (using any fuel) from any requirements under the MACT, including notification, recordkeeping, and reporting requirements. Thus there are no applicable requirements for the hot water boilers derived from the Boiler MACT.

CONFIDENTIAL INFORMATION

The permittee did not submit a request for confidentiality. All portions of the Title V application are suitable for public review.

PUBLIC PARTICIPATION

The draft permit was placed on public notice in the Harrisonburg Daily News Record on December 30, 2005. The public comment period ended 30 days later on January 29, 2006. The draft and supporting documentation were available for public review during the public comment period. No comments were received from the public.

EPA Region III was provided a copy of the proposed permit on December 30, 2005, and its 45-day review period ended February 13, 2006. No comment was received from EPA Region III.

ATTACHMENTS

- A: 2004 annual emissions report
- B: Minor NSR permit dated February 15, 2005 and amended August 11, 2005
- C: CAM Plan submitted by RRD